Trends in the Training Recruits Receive Before Their First Fleet Assignments
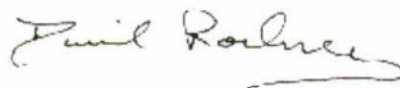
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ANALYSIS & SOLUTIONS

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14. ABSTRACT

N14 asked CNA to examine recent trends in the training of recruits before their first fleet assignments. To study the efficiency of the training pipeline, we follow the flow of Sailors to the fleet between FY95 and FY09 as it is affected by length of time spent in bootcamp and training. Specifically, we examine two major issues. The first is the time that it takes recruits to reach their first fleet assignments. This includes both looking at the trends in the length of time to the fleet over the last 14 years and investigating how the time to the fleet is spent. The second issue we address is pre-fleet attrition. We review the trends and timing data for patterns that provide useful insights.

15. SUBJECT TERMS

Street-to-Fleet Database, Attrition, Time to Fleet, Recruit Training

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Executive summary

Investigation

N14 asked CNA to examine recent trends in the training of recruits before their first fleet assignments. We follow the flow of Sailors to the fleet between FY95 and FY09 as it is affected by length of time spent in bootcamp and training. We also study attrition during bootcamp and training processes. We look for patterns that may be of interest and indicate problem areas or provide other useful insights.

In examining the flow of Sailors to the fleet before their first fleet assignments, we look at two major issues. The first is the time that it takes recruits to reach their first fleet assignments. We look at the trends in the length of time to the fleet over the last 14 years. We compare them among recruits with different initial obligations (4YOs and 6YOs). We also investigate how the time to the fleet is spent—whether it is spent under instruction or not. The second issue we address is pre-fleet attrition. We look at pre-fleet attrition over time and compare trends for recruits with different initial obligations. We also examine attrition timing to see where most pre-fleet attrition occurs.

Results

Our investigation of the length of initial training for Navy recruits before their first fleet assignments shows that there has been a recent decline in the average time spent in the training pipeline, regardless of initial service obligation. While UI time and time not in school decreased on average, for both 4YOs and 6YOs, we found that NUI time actually increased for 4YOs and remained very unstable over time for 6YOs. Both 4YOs and 6YOs were recently less likely to participate in follow-on training after A-school. We saw a large decline in UI time for follow-on training of 4YOs. For 6YOs, we found a decrease in overall UI time, with the largest decline in UI time during follow-on training as well. In FY08, 6YOs spent more UI time in A-school, on average, than in follow-on training.

Recruits without prior service start their initial training by going to bootcamp. For 4YOs, from FY00 to FY08, the average number of days spent in bootcamp has decreased from 72 to 59. Both, bootcamp and post-bootcamp attrition decreased from FY07 to FY08. For 6YOs, from FY00 to FY08, the average number of days spent in bootcamp has decreased from 70 to 60.5. We observed a recent increase in bootcamp attrition for 6YOs but a larger decrease in post-bootcamp attrition.

There has been a stable decline in pre-EAOS attrition for 4YOs , 6YOs , and for GENDETs/PACTs. Pre-EAOS attrition rates (including pre-fleet attrition) have decreased from 39.4% in FY01 to 31.5% in FY05 for 4YOs and from 47.2% in FY99 to 38.2% in FY03 for 6YOs. Pre-EAOS attrition rates declined from 41.9% in FY00 to 36.6% in FY05 for GENDETs.

The 24-month attrition rate continues to be higher for 4YOs than 6YOs, but the gap between the two is decreasing.

Issues

- How long does it take recruits to reach their first fleet assignments?
  - How much of this time is spent under instruction?

- What proportion of recruits make it to the fleet?
  - Where does most attrition occur?

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In examining the flow of Sailors to the fleet before their first fleet assignments, we look at two major issues.

The first is the time that it takes recruits to reach their first fleet assignments. We look at the trends in the length of time to the fleet over the last 14 years. We compare them among recruits with different initial obligations. We also investigate how the time to the fleet is spent—whether it is spent under instruction or not.

The second issue we address is pre-fleet attrition. We look at pre-fleet attrition over time and compare trends for recruits with different initial obligations. We also examine attrition timing to see where most pre-fleet attrition occurs.

Data Source

- CNA's Street-to-Fleet (STF) database
  - Tracks recruits from bootcamp to the fleet
  - Integrates accession, personnel, and training data since FY05

- Accession data from DMDC and CNRC

- Personnel data from EMR file

- Training data from NITRAS

- Career events, FY90 through FY09

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CNA regularly combines accession, personnel, and training data into our Street-to-Fleet (STF) database, which allows us to follow recruits from bootcamp until they reach the fleet. We obtain initial detailed information on recruits, such as their obligation length, rating, and program, from the Defense Manpower Data Center (DMDC) and Commander Naval Recruiting Command (CNRC). We continue with the data from the Navy Integrated Training Resources and Administration System (NITRAS), which contains training information for each recruit, including classes taken and a breakdown of how time in training is spent (under instruction, awaiting instruction or transfer, or under interrupted instruction).

We then follow the recruits using the BUPERS' Enlisted Master Record file (EMR), which contains information on when the recruits reach the fleet, their rate, and separation data. We use CNA's STF dataset (currently updated to FY09) for the analyses in this brief.

**How Long Does It Take Recruits To Reach Their First Fleet Assignments?**
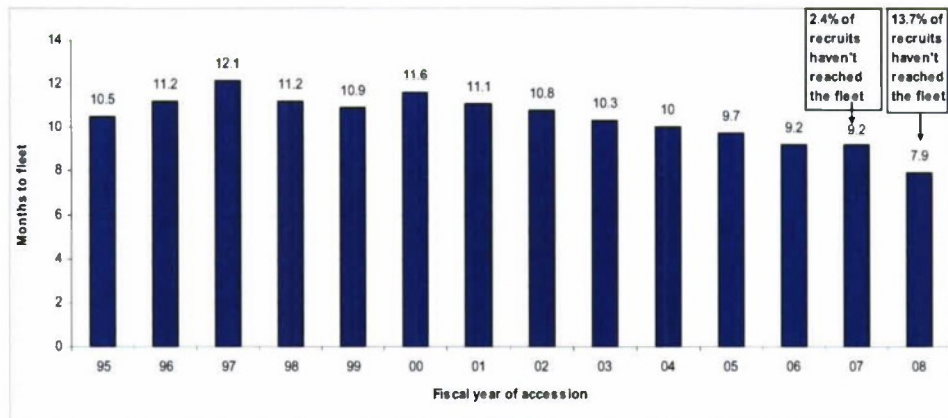
Overall time to the fleet is decreasing

CNA

We first look at the overall average time it takes the recruits to reach the fleet. Since about FY00, there has been a steady decrease in the amount of time it takes recruits to get to the fleet. In general, this time should depend on each recruit's training program, so we next look at time to the fleet broken up by the recruits' initial service obligation. These data were pulled from CNA's records in December 2009. By that time, some recruits have not made it to the fleet because they are still active in the training pipeline. In fact, 2.4% of recruits who accessed in FY07, 13.7% of recruits who accessed in FY08, and 64.9% of recruits who accessed in FY09 fall into this category; 0.3% of 4-year obligors (4YOs) and 9.6% of 6YOs who accessed in FY07 as well as 2.5% of 4YOs and 48.5% of 6YOs who accessed in FY08 have not reached the fleet. Those who accessed in FY07 and FY08 and have not yet made it to the fleet have longer training pipelines, so inclusion of their information in our analyses could have an effect on the final conclusions. We proceed by presenting information up to FY08 for 4YOs and up to FY07 for 6YOs, keeping in mind the above caveat. Because such a large proportion of recruits who accessed in FY09 have not made it to the fleet by December 2009, we refrain from presenting and discussing their results.

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How Long Does It Take Recruits
To Reach Their First Fleet Assignments? (cont.)
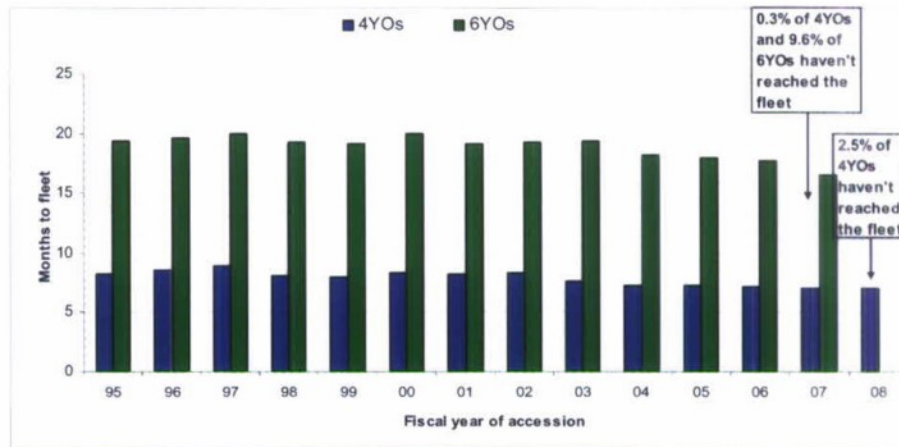
Time to the fleet is decreasing for both 4YOs and 6YOs

CNA

Since those ratings with longer initial service obligations tend to require more training, we look at time to the fleet for 4YO and 6YO recruits separately. The blue and green bars represent the average time to the fleet for 4YOs and 6YOs, respectively. Starting in FY00, at which point time to the fleet for 4YOs was at about 8.3 months, the average first remained stable and then slowly decreased going down to 7 months in FY08. For 6YOs, there was a slight increase from FY01 to FY03 (from 19.1 to 19.4 months on average) but a decrease thereafter, to 16.6 months in FY07.

How Do 4YO Recruits Spend Their Time Getting to the Fleet?
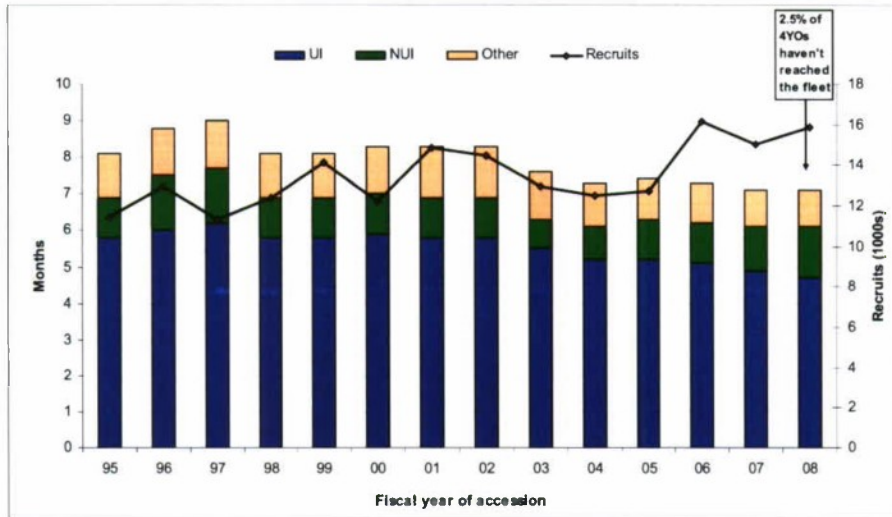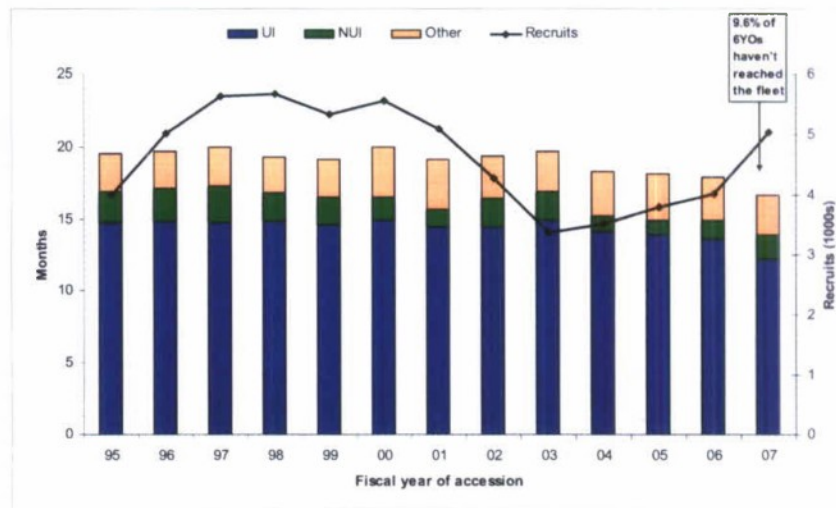
About 71% of the time spent under instruction

CNA

We now focus on how the time getting to the fleet is spent. The plot above divides our data into three categories:

- Time spent under instruction (UI) or training at school
- Time spent in school but not under instruction (NUI) or in training
- Time spent not at school (e.g., travel) (designated "Other").

This plot shows only the distribution for 4YOs. We see that since FY00 the number of months spent UI decreases from 5.9 to 4.7 months in FY08. Time not in school (Other time) decreases also, from 1.3 months in FY00 to 1 month in FY08. NUI time first decreases from 1.1 months in FY00 to 0.8 and 0.9 month in FY03 and FY04 but then increases to about 1.4 months in FY08. We conclude, therefore, that the overall decrease in time to the fleet for 4YOs results from decreases in UI time and Other time. Overall, 4YOs spent about 71% of their pre-fleet time UI, but this amount decreases to 69% between FY00 and FY08.

UI   NUI   Other   Recruits

9.6% of 6YOs haven't reached the fleet

Months

Recruits (1000s)

95 96 97 98 99 00 01 02 03 04 05 06 07

Fiscal year of accession

· About 75% of the time spent under instruction

· 25% (4.6 months) spent not at school or at school but NUI

CNA

This chart shows how 6YOs spent their time reaching the fleet.

Starting at 14.9 months UI in FY00, the number of months spent UI decreases to about 12.2 months in FY07. Time in school but not in training (NUI) varies during the same time period, starting at 1.6 months in FY00, decreasing to 1.3 months in Y01, staying at 2 months in FY02 and FY03, dropping to just over 1 month for FY04 through FY06, and then going up to 1.7 months in FY07. Time not in school (Other) varies also, but overall it decreases—from 3.5 months on average in FY00 to 2.8 months on average in FY07. Overall, and also since FY00, 6YOs spent about 75% of their pre-fleet time UI.

Who Receives Training After A-School?
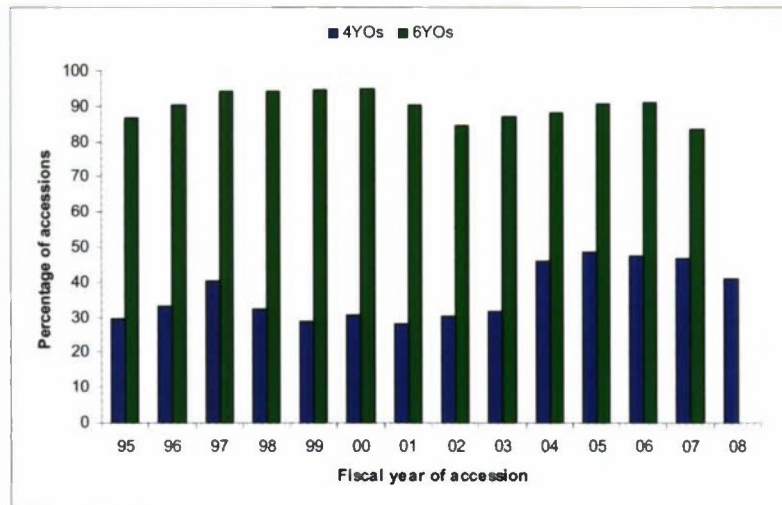
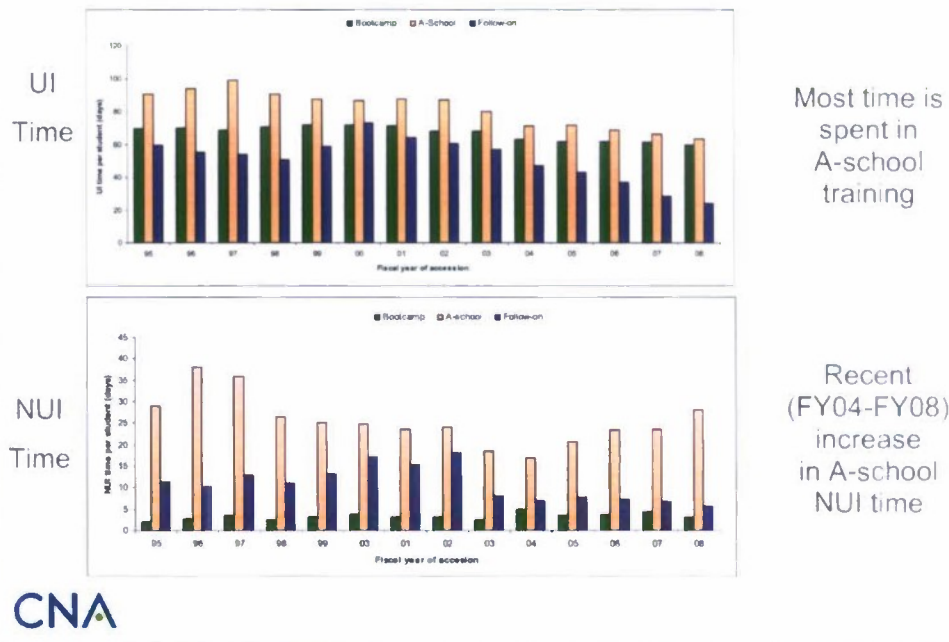From FY05 to FY07, 76% to 91% of 6YOs and 41% to 49% of 4YOs

CNA·

Recruits without prior service start their initial training by going to bootcamp. Then, non-GENDET (now non-PACT) recruits go to A-school.[1] After finishing A-school, recruits may go straight to the fleet or acquire follow-on training—for example, to earn a Navy Enlisted Classification (NEC). Whether a recruit goes through follow-on training depends largely on the recruit's rating and initial obligation. We examine trends in follow-on training in the above plot, looking at it by accession cohort and years of obligation.

The above plot shows the proportions of 4YOs and 6YOs who went through follow-on training. We can see that, for 4YOs, the proportion of recruits with follow-on training increased from FY99 (29%) to FY05 (49%) and decreased until FY08 (41%). For 6YOs, the percentage of recruits in follow-on training decreased from FY00 (95%) until FY02 (85%), and then increased until FY06 (91%) and decreased again until FY07 (83.6%).

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1. GENDET stands for General Detail, and PACT abbreviates Professional Apprenticeship Career Track Program.

How Much of Each Type of Training Do 4YO Recruits Receive?

UI Time

NUI Time

Most time is spent in A-school training

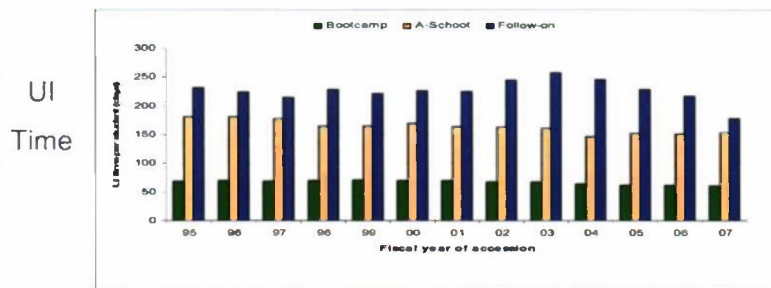Recent (FY04-FY08) increase in A-school NUI time

CNA

The next step in our analysis is to look at how much time recruits spend in each type of training: bootcamp, A-school, and follow-on. We start by looking at 4YOs. In the above plots, this time is broken down by accession cohort (x-axis) and by UI time (top plot) and NUI time (bottom plot).
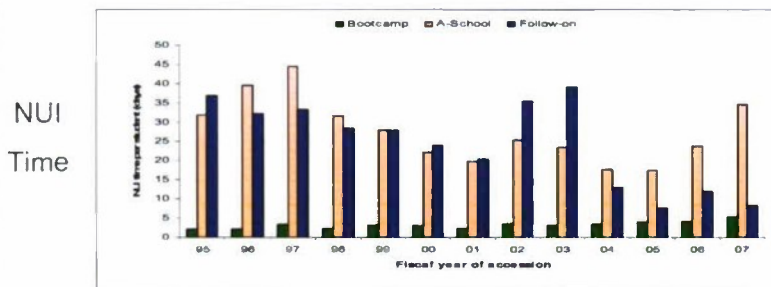
For 4YOs, we see a decrease in overall UI time starting in about FY00. From FY00 to FY08, the average number of days spent in bootcamp has decreased from 72 to 59, the average time in A-school has decreased from 87 to 63 days, and the average time in follow-on training has decreased from 73 to 24 days. 4YOs spent most of their time in A-school training during that time (on average, 76 days), followed by bootcamp (65 days on average) and follow-on training (48 days on average). The largest decrease in UI time since FY00 is observed for follow-on training.

Since FY00, we observed a stable average NUI training time (1.1 months) until a small decrease in FY03 and FY04 (to 0.8 and 0.9 month, respectively). In FY05, the average NUI time went back up to 1.1 months, and increased to 1.4 months by FY08. The time spent NUI in bootcamp since FY00 is very unstable around its average, 3.5 days. The smallest average NUI time in bootcamp occurred in FY03 (2.5 days); the highest average occurred in FY04 (5 days). The average NUI time in A-school for 4YOs was about 23 days, with the least time in FY04, and a steady increase since then to about 28 days in FY08. The average number of NUI days in follow-on training between FY00 and FY08 was 10 days, with a steady decrease between FY05 (8 days) to FY08 (6 days).

How Much of Each Type of Training
Do 6YO Recruits Receive?

UI
Time

■ Bootcamp ▫ A-School ■ Follow-on

Fiscal year of accession

Most time is
spent in
follow-on
training

NUI
Time

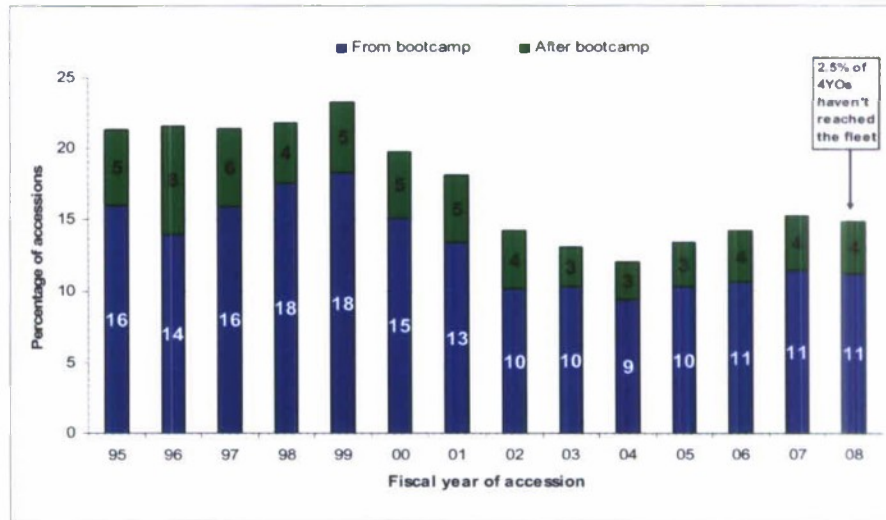■ Bootcamp ▫ A-School ■ Follow-on

Fiscal year of accession

Recent
(FY04-FY07)
increase in
A-school
NUI time

CNA

For 6YOs we see a decrease in overall UI time starting in about FY00. From FY00 to FY07, the average number of days spent in bootcamp has decreased from 70 to 60.5, the average time in A-school has decreased from 170 to 153 days, and the average time in follow-on training has decreased from 226 to 179 days (largest decrease). Since FY00, 6YOs spent most of their UI time in follow-on training (228 days on average), followed by A-school (158 days) and bootcamp (65 days).

Since FY00, we observe a lot of variability in total NUI training time with a recent increase from FY05 (1 month) to FY07 (1.7 months). The time that 6YOs recently spent NUI in bootcamp has shown a steady decrease from 3.4 days in FY04 to 5.4 days in FY07. NUI time in A-school went down to 17.4 days in FY05 but has increased to 34.6 days in FY07. Average NUI time in follow-on training fell from 39 days in FY03 to 13 days in FY04 and, with some variation, has decreased to 8.3 days in FY07. On average, 6YOs spend most NUI time in A-school (23 days), followed by follow-on training (on average, 20 days but very variable) and bootcamp (3.6 days).
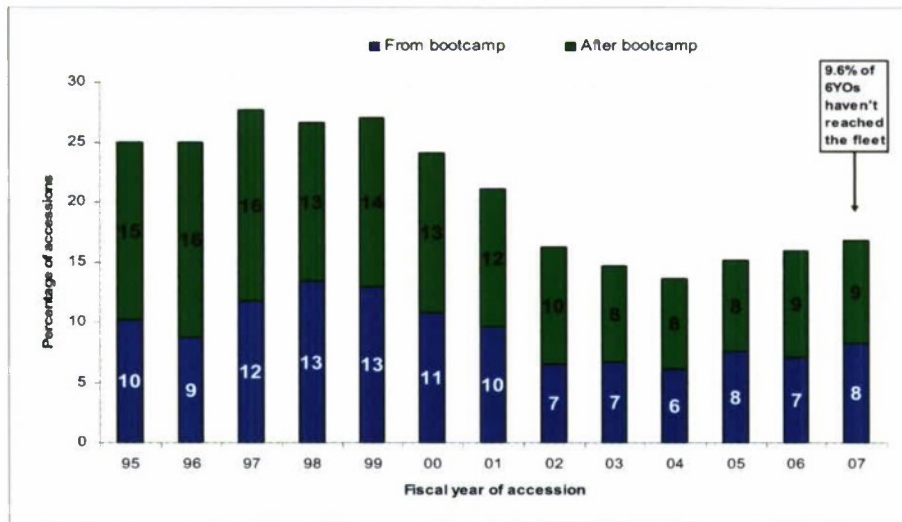
Both bootcamp and post-bootcamp attrition were rising until FY07

CNA

Next, we analyze pre-fleet attrition: what proportion of recruits leave the Navy before reaching the fleet? We pay special attention to pre-fleet attrition because recruiting and training resources spent on recruits who attrite before getting to the fleet never generate a return on the Navy's investment. We do the analysis separately for 4YOs and 6YOs because the Navy's investment is greater in its 6YO recruits. We also look at bootcamp attrition separately from post-bootcamp attrition to get a more detailed look at what affects recruits' decisions to attrite. The plot above shows attrition by cohort accession year. The blue part of the bar represents bootcamp attrition and the green, post-bootcamp attrition.

Overall, we see a fall in pre-fleet attrition between FY99 (23.3%) and FY04 (12%), and a subsequent rise until FY07 (15.3%), with a decrease in FY08 (14.9%). Between FY99 and FY04, both bootcamp and post-bootcamp attrition fell from 18.3% and 5%, respectively, to 9.4% and 2.6%. Both bootcamp and post-bootcamp attrition then rose to 11.4% and 3.9% by FY07 and decreased to 11.2% and 3.7%, respectively, by FY08.

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How Many 6YO Recruits Leave the Navy Before Their First Fleet Assignments?


In FY08, bootcamp attrition rose as post-bootcamp attrition declined

CNA·

For 6YOs, we observe a similar pattern of decrease in overall attrition by FY04 and a subsequent increase by FY07. Overall, we see a fall in pre-fleet attrition between FY99 (27%) and FY04 (13.6%), and a subsequent rise until FY07 (16.8%).

As shown above, bootcamp attrition starts falling in FY98 (at which point it is at 13.4%), all the way to 6.1% in FY04. It then rises steadily until its recent peak of 8.3% in FY07. Post-bootcamp attrition starts decreasing in FY99 (at which point it was 14.1%), down to 7.5% in FY04 and FY05, then increases to 8.8% in FY06, and falls to 8.5% in FY07.

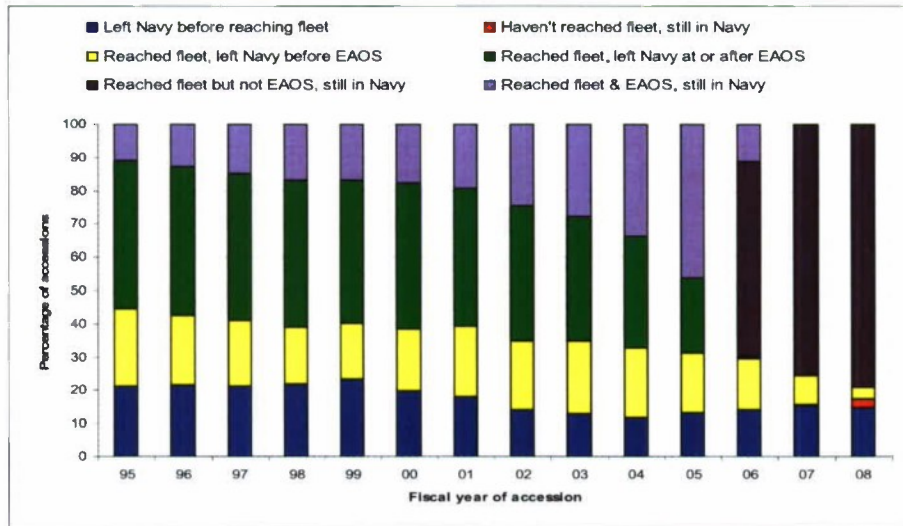## Comparison of 24-Month Attrition
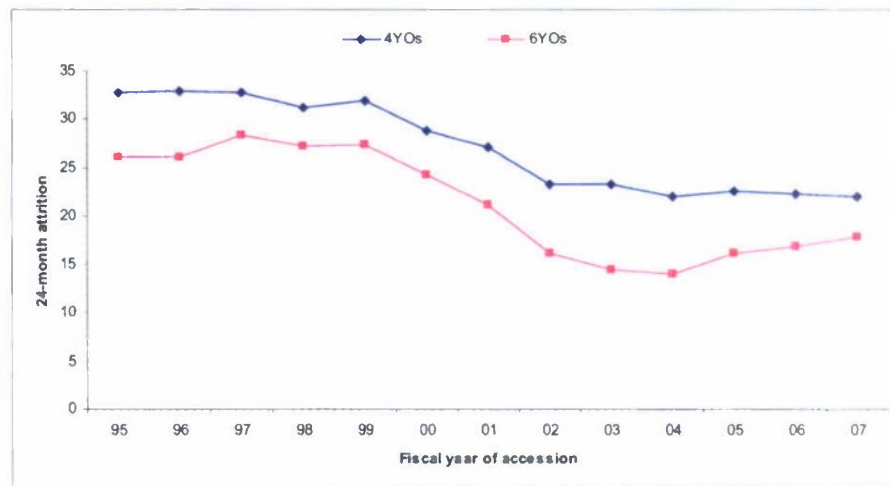
4YOs attrite more than 6YOs at 24 months, but the gap is decreasing

CNA

Twenty-four-month attrition is always higher for 4YOs. The gap between the 4YOs and 6YOs varies over time, but it appears to decrease starting in FY04 and until FY07.

Cohort History – 4YO Recruits

Legend:
- ■ (blue) Left Navy before reaching fleet
- □ (yellow) Reached fleet, left Navy before EAOS
- ■ (black) Reached fleet but not EAOS, still in Navy
- ■ (red) Haven't reached fleet, still in Navy
- ■ (green) Reached fleet, left Navy at or after EAOS
- ■ (purple) Reached fleet & EAOS, still in Navy

Of the FY04 cohort, 33% of recruits were lost before their EAOS
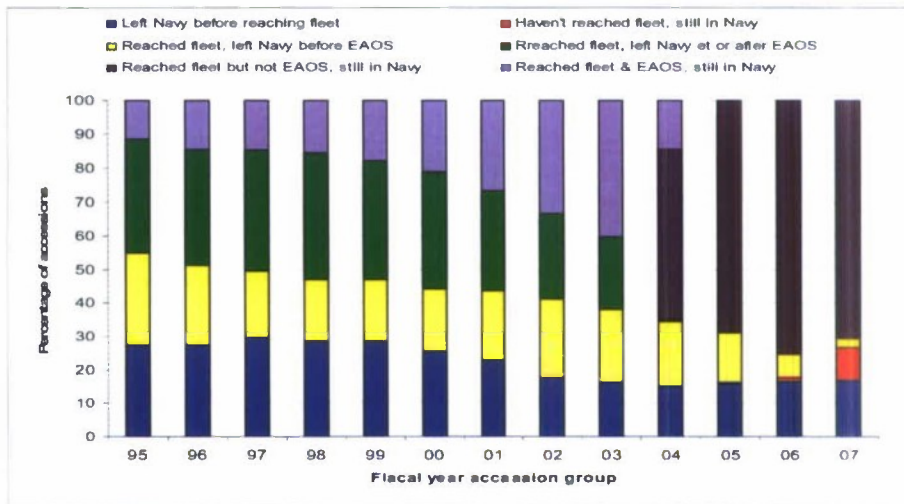(including pre-fleet attrition)

CNA·

We also investigate, by cohort and years of obligation, how successful the Navy has been in retaining its recruits overall. We divide recruits' actions in the following six categories:

- Pre-fleet attrite—never reached the fleet and have left the Navy (blue)

- Never reached the fleet but are still in the Navy (red)

- Reached the fleet but left before their initial end of active obligated service (EAOS) (yellow)

- Reached the fleet and left at or after their initial EAOS (green)

- Reached the fleet and their initial EAOS and are still in the Navy (burgundy)

- Reached the fleet but not their initial EAOS and are still in the Navy (purple).

We start by looking at 4YO recruits. For FY00 recruits, about 20% of recruits never reached the fleet (blue), another 18.6% left before their EAOS, 43.7% were lost at or after their EAOS, and about 18% were still in the Navy as of FY09. For FY04 recruits, about 12% never reached the fleet (blue), another 21% left before their EAOS, 33.4% were lost at or after their EAOS, and about 33.7% were still in the Navy as of FY09. Most recent recruits (FY06 and later) either reached the fleet but not their EAOS or have not reached the fleet yet. Overall, we see an increase until FY05 of recruits staying in the Navy after their EAOS and a decrease in losses of Sailors at or after their EAOS.
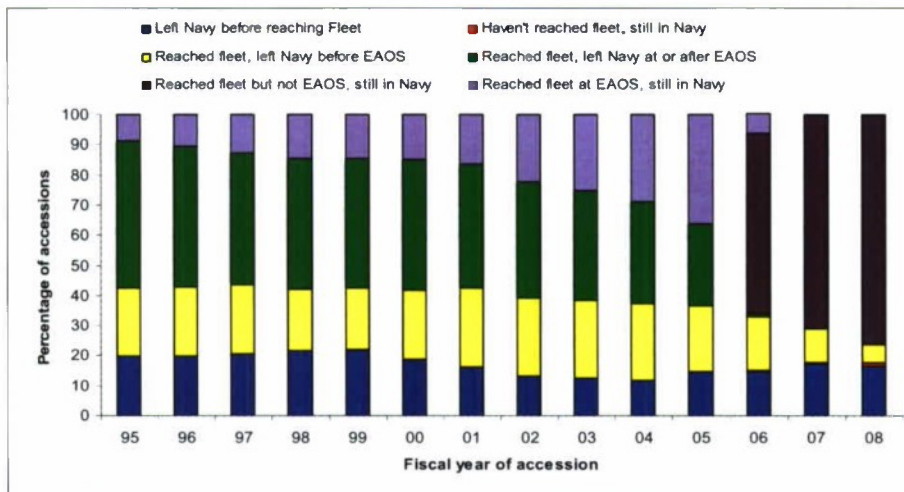
14

Cohort History – 6YO Recruits

Of the FY03 cohort, 38% of recruits were lost before their EAOS
(including pre-fleet attrition)

Next, we consider 6YO recruits. For FY00 recruits, about 25.5% of recruits never
reached the fleet (blue). Close to 19% of the FY00 recruits left before their EAOS
and another 34.3% were lost at or after their EAOS. About 21% of FY00 6YO
recruits were still in the Navy as of FY09. Of the FY03 6YO recruits, about 16.4%
never reached the fleet (blue), and another 22% left before their EAOS. The Navy
lost 21.4% of FY03 6YOs at or after their EAOS, and about 40.4% were still in the
Navy as of FY09. Most recent recruits (FY04 and later) either reached the fleet but
not their EAOS or have not reached the fleet yet. Overall, we see an increase until
FY03 of recruits staying in the Navy after their EAOS and a decrease in losses of
Sailors at or after their EAOS.

Cohort History – GENDET/PACT

Legend:
- Left Navy before reaching Fleet
- Haven't reached fleet, still in Navy
- Reached fleet, left Navy before EAOS
- Reached fleet, left Navy at or after EAOS
- Reached fleet but not EAOS, still in Navy
- Reached fleet at EAOS, still in Navy

Of the FY04 cohort, 37.5% of recruits were lost before their EAOS (including pre-fleet attrition)

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Finally, we focus on GENDETs, and more recently on PACTs, most of whom enter with a 4YO obligation. For FY00 recruits, about 18.7% of recruits never reached the fleet (blue), and another 23.2% of the FY00 GENDETs left before their EAOS. The Navy lost about 43% of these recruits at or after their EAOS. About 15% of FY00 GENDET recruits were still in the Navy as of FY09. Of the FY04 GENDET recruits, about 12% never reached the fleet (blue), and another 25.6% left before their EAOS. The Navy lost 33.4% of FY00 GENDETs at or after their EAOS, and about 29% were still in the Navy as of FY09. Recent recruits (FY06 and later) either reached the fleet but not their EAOS or have not reached the fleet yet. Overall, we see an increase until FY05 of recruits staying in the Navy after their EAOS and a decrease in losses of Sailors at or after their EAOS.

Summary

- Between FY00 and FY08, the average time to the fleet decreased both for 4YOs and 6YOs
  - NUI time increased for 4YOs and varied for 6YOs

- As of FY08, 41% of 4YOs and 76% of 6YOs received follow-on training after A-school
  - The numbers have been decreasing since FY05

- Percentage of recruits who left the Navy before reaching the fleet has been decreasing since FY01 for both 4YOs and 6YOs
  - Percentage of recruits staying past their EAOS has increased

- Bootcamp attrition has been slowly rising for both 4YOs and 6YOs

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Our investigation of the length of initial training for Navy recruits before their first fleet assignments shows that there has been a recent decline in the average time spent in the training pipeline, regardless of initial service obligation. While UI time and time not in school decreased on average, for both 4YOs and 6YOs, we found that NUI time actually increased for 4YOs and remained very unstable over time for 6YOs. Both 4YOs and 6YOs were recently less likely to participate in follow-on training after A-school. We saw a large decline in UI time for follow-on training of 4YOs. For 6YOs, we found a decrease in overall UI time, with the largest decline in UI time during follow-on training as well. In FY08, 6YOs spent more UI time in A-school, on average, than in follow-on training.

The 24-month attrition continues to be higher for 4YOs than 6YOs, but the gap between the two is decreasing.

For 4YOs, both bootcamp and post-bootcamp attrition decreased from FY07 to FY08. For 6YOs, we observed a recent increase in bootcamp attrition but a larger decrease in post-bootcamp attrition.

There has been a stable decline in pre-EAOS attrition for 4YOs and 6YOs but not for GENDETs/PACTs. Pre-EAOS attrition rates (including pre-fleet attrition) have decreased from 39.4% in FY01 to 31.5% in FY05 for 4YOs and from 47.2% in FY99 to 38.2% in FY03 for 6YOs. Pre-EAOS attrition rates rose from 14.8% in FY00 to 36.1% in FY05 for GENDETs.

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